ABSTRACT

The present invention relates to a permeable membrane diaphragm of different layers for electrolytic cell, especially for chloro-alkali electrolytic cell. The diaphragm is asymmetric, which comprises at least two layers: a flow-controlling permeable layer comprising micro-porous fluoropolymer, especially PTFE, and a diffusion-restricting permeable layer comprising porous film, sheet or cloth made of anticorrosive materials, preferably polypropylene. The flow-controlling layer is mounted near the anode, and the diffusion-restricting layer is mounted near the cathode. The mean pore diameter of the diffusion-restricting layer is at least 5 times more than that of the flow-controlling layer and the thickness of the diffusion-restricting layer is at least 1 times more than that of the flow-controlling layer. The pore diameter of said flow-controlling layer ranges from 0.1-2.0 μ m, and its thickness is 0.03-0.2mm. The pore diameter of said diffusion-restricting layer ranges from 5-50 μ m, and its thickness is 0.3-2mm. The above two layers can also be made of more than one similar thinner membranes respectively.